

SECTOR 1

THE COAST OF NORWAY FROM LINDESNES TO JAERENS REV

Plan.—This sector describes the SW coast of Norway between Lindesnes, the southernmost point on the Norwegian coast and Jaerens Rev, a point approximately 4.6 miles S of Feistein Light.

General Remarks

1.1 Gerneral.—The SW coast of Norway between Lindesnes, the southernmost mainland point of the country, and Jaerens Rev trends in a general NW direction for about 68 miles. Several large and numerous small fjords, branching in all directions, indent the coast. Close-lying islands, islets, and rocks front part of this coastal stretch, particularly the section between Lindesnes and Steinodden, the vicinity of Listafjorden, and near Egersund. This part of the coast, although high in places, is predominately lower than the coast to the N.

It includes the two lowland regions of Lista and Jaeren, which are unlike any other part of the Norwegian coast. Steep, high mountains back the coastal hills and plains. Numerous good anchorage and harbors are located in the fjords.

Winds—Weather.—The prevailing winds on the W and S coasts of Norway reflect the average pressure distribution and its seasonal changes. With the shift from high pressure in winter to low pressure in summer, the winds on the W coast change from S in winter to N in summer. However, the prevailing winds only blow from a N or S direction not more than 40 percent of the time. The usual situation is one of variable winds induced by passing cyclones.

Because of land and sea breezes, and topographical effects, the wind in the fjords and along the coast is usually different from that in the open sea. Also, because of the mountainous nature of the coast, any wind blowing from a direction between S and WSW is deflected and becomes S wind, and any wind blowing between NW and N is deflected and becomes a N wind.

The speed of the wind increases outward from the coast to a distance of 150 miles at times.

Along the coast, when the winds are fresh or strong, most often there is turbulence; when the coast is swept by violent winds and they penetrate the fjords, they become turblent.

There are frequent, strong downward currents, usually from the E or SE, close to the coast, in the vicinity of 60° N.

A steep gradient may extend as much as 150 miles seaward from the coast. When a steep gradient develops along the W coast, strong S winds are produced; when deep depressions are on a NE track, moving between the British Isles and Iceland, gale winds frequently occur. Northwest gales occur occasionally on the W coast when the pressure falls over Scandinavia.

In winter, gales and storms are common on both the S and W coasts. In spring, there are more gales and storms on the W and SW coasts then on the S coast. As summer approaches, the gales decrease in frequency. The strength of the winds

decreases in summer, although gales are not unknown, particularly on the W coast.

Off the coast and in the fjords between Lindesnes and Jaerens Rev, tidal currents are minimal. Small currents are found in the narrow channels of the fjords, such as in Skudenesfjorden, but little is known about these currents.

The highest frequency of sea and swell is from the W quadrant. Observations along the exposed coast during winter, showed that 65 percent of the sea waves were less than 1.5m in height and 9 percent of the waves observed were greater than 3.6m in height. However, 20 percent of the recorded observations on swell were recorded to exceed 3.6m in height and, at times, reached heights greater than 7.6m in height.

During summer, the weakening of the "Icelandic Low" and the decrease in wind velocities causes a decrease in swell, and, most often, a decrease in sea on the S and W coasts of Norway. Only about 6 percent of the total observations taken along the exposed portions showed a swell wave height in excess of 3.6m; 68 percent showed a swell wave height of less than 1.8m in height. Observations with regard to sea showed that 83 percent of the total waves observed were less than 1.5m in height and that 4 percent were greater than 3.6m in height.

Sea breezes are frequent along the entire coast in summer. Wind speeds increase slightly in autumn and gales become more frequent, especially along the exposed coast.

Fog is the chief cause of poor visibility. It is most frequent over the sea in summer and most frequent in the upper fjords and over land in winter. Ocasionally, sea fog occurs in winter when air lying over a warm water surface is blown over colder water. However, the most frequent fog in winter is radiation fog. Radiation fog is a nighttime occurrence. It is produced when the land gives up its heat and becomes cooler. The cooler land cools the air immediately above it. This causes a temperature inversion to form, the temperature increasing with height. Fog forms. Usually radiation fog occurs at the heads of deep fjords when there is severe frost inland and cold winds blow into the open fjords.

One form of fog, which particularly affects the upper reaches of fjords, is "frost smoke." This occurs during spells of severe frost. It may be expected if the wind is light and from an offshore direction and if skies are clear or nearly so over land.

In spring, fog decreases generally, as radiation fog becomes less likely because of the gradual warming of the land. It increases only at Skudenes, where sea fog of the warm season increases in frequency. Poor visibility is least common in summer over the land area of this region. However, sea fog is not uncommon during the early part of the summer along and over the coast.

In general, autumn is the season when fog is least common on the coast. Over land its frequency increases towards the approach of winter.

The climate of SW Norway is mild in comparison to regions of equal distance from the equator. The maritime influence, which is responsible for the warm winters, is responsible for the warm summers as well. The steady run of the warm water of the North Atlantic Drift, by way of the passage between the Shetland Islands, the Faeroe Islands, and the English Channel, into the North sea and the Norwegian Sea, results in the water of these seas in January being at least 20°C warmer than in other areas of the same latitude.

During all seasons, migratory low pressure centers, accompanied by repeated intrusions of maritime polar air produce overcast skys, and warm temperatures.

Ice.—Ice in this area offers no hindrance to navigation and is present only in the upper reaches of the fjords along the coast. Floating ice is met in early spring, when small masses may drift out of Oslofjorden and Kattegat, and occasionally from some of the larger fjords to the W and N of Lindesnes.

Tides—Currents.—The tidal current just offshore N from Jaeren to the vicinity of Korsfjorden flood to the N, and begin about 5 to 6 hours after HW at Bergen and ebb to the S, and begin about 30 minutes to 1 hour before HW at Bergen. From the vicinity of Korsfjorden to approximately 60°51'N, the flood begins about 6 hours after HW at Bergen, and sets to the E; the ebb begins about the time of HW at Bergen and sets to the W.

Surface currents in the fjords are predominantly tidal. They set inward on the flood and seaward on the ebb, except during May and June. During these months, increased runoff from melting snow and ice cause the surface currents to flow almost continually seaward. The depths of the surface currents average 3.6 to 5.5m, though they may vary from 0.91 to 18.3m at times. Current speeds are strongest at the surface, decreasing with depth. An intermediate current sets into the fjords usually between 9.4 and 18.3m. Generally, the water below 73m either has a very weak seaward set or is stagnant, and is renewed only by a major meteorological disturbance.

Wind may alter the tidal currents in the fjords. Onshore winds may cause a rise in the water level with a corresponding increase in the velocity and duration of incoming currents. When the winds cease, currents flow in the opposite direction until equilibrium is established. Outflowing currents along the sides of the fjords may occur when strong winds blow onshore for a prolonged period. Offshore winds may have an opposite effect on the water level and currents.

The term "tidal current" means the resultant of all water movements; namely, ocean currents, tidal currents, winddriven currents, and outflow of water from rivers, fjords,and embayments.

The tidal current of this section is subject to great variations. West of Lindesnes, where the constant ocean current is weaker, the wind has more effect, and the current is less regular than on the SE coast between Kristiansand and Oslofjorden.

A tidal current setting W and N is, however, prevalent especially in summer. However, with continuous N and W winds the current may set S and E for perhaps a week continuously. Near the coast the direction of the current may be toward the land. The current setting N off Jaeren may attain a velocity of about 2 knots.

Caution.—Off the coast of Norway, various types of ships and small craft used in the development of oil and gas fields may be encountered.

An IMO-adopted Traffic Separation Scheme lies in the approach to Risavika SW of Feistein and may best be seen on the chart.

Norwegian authorities recommend that tankers of 40,000 dwt and over, when navigating off the coast of Norway, should keep to seaward of a line joining the following positions:

- a. 57°46.2'N, 7°00.0'E, 13 miles from Lindesnes Light.
- b. 57°54.3'N, 6°21.5'E.
- c. 58°16.1'N, 5°35.7'E.
- d. 58°30.8'N, 5°12.2'E.
- e. 58°32.9'N, 4°57.1'E.
- f. 59°10.7'N, 4°27.5'E.
- g. 60°49.2'N, 4°08.1'E.

By keeping seaward of this line, tankers will maintain a distance of 12 to 20 miles from the shore.

Off-lying Dangers

1.2 Ekofisk Oil and Gas Field (56°33'N., 3°13'E.) is situated about 150 miles SW of Lindesnes Light. A complex of production platforms, gas and oil pipelines, and tanker loading systems is located in the field. The SPM tanker loading systems are generally removed when the field to shore pipelines are operating normally, but installations remain on the seabed. Pipelines extend N to the Statpipe System, SE to Germany, and SW to England and may best be seen on the chart.

Eldfisk Field, Edda Field, Tommeliten Field, West Edofisk Field, Albuskjell Field, and Tor Field are located within 11 miles of Ekofisk Oil and Gas Field. They consist of several production platforms some of which are equipped with an aeronautical radio beacon and a racon.

Hod Field, Valhall Field, and Gyda Field lie 23 miles SSE, 17 miles SSE, and 21 miles N, respectively, of Ekofisk Oil and Gas Field.

Ula Gas Field (57°06'N., 2°51'E.) is situated about 36 miles NNW of Ekofisk Oil and Gas Field and consists of three platforms connected by bridges.

Cod Gas Field lies 14 miles W of Ula Gas Field.

Statpipe Platform No. 1 (58°11'N., 2°28'E.) is situated about 103 miles SW of Feistein and equipped with a racon. Submarine gas pipelines extend N and S to other fields and NE to the coast.

Sleipner Gas Field lies 23 miles NW of the platform.

For oil and gas fields N of the above, see Sector 2.

For oil and gas fields NW of the above, see Pub. 192, Sailing Directions (Enroute) North Sea.

Lindesnes to Steinodden

1.3 The coast line from Lindesnes to Steinodden measures about 18 miless and runs in a NW direction. Steinodden is on the W extremity of the peninsula of Lista. The coast varies in height, is mostly rocky, and contains trees and several small beaches.

Gronsfjorden, between the peninsula of Spangereid and the mainland W, has steep and rugged shores. A group of rocky islands separates the entrance of the fjord from the entrance of Rosfjorden. The shores of the latter are steep, rising to about 152m. Between the entrance to Rosfjorden and Farsund for about 6 miles WNW, there are many islands. The coast is indented and rocky, but not steep.

The port of Farsund is at the entrance of Lyngdalsfjordenen. This fjord and its branch, Oftefjorden, penetrate deeply inland. Their steep, and generally forested, shores rise to a height of about 183m.

The peninsula of Lista lies W of Farsund. In the SW part, it is low-lying, but in the NE part it rises to heights of about 244m. There are several patches of marshland and extensive areas of farmland in the SW part.

Aspect.—The rounded summit of Homsknipen, 477m high, is located about 11 miles ENE of Steinodden. A conspicuous radio tower stands on Kalaskniben, a hill situated 1.5 miles NNE of Homsknipen.

Caution.—Mackerel fishing, by means of drift nets, purse seines, and trailing lines, flourishes along the S coast of Norway from May to September. The approximate area of greatest activity is from W from Lillesand to Lista.

A restricted area, in which navigation is controlled by regulation, lies up to 1 mile from the coast between Einarsneset and Varnes.



Lindesnes Light

1.4 Lindesnes (57°59'N., 7°03'E.) is the southernmost point on the Norwegian peninsula. An important landfall, it extends SW from the mainland and is on the S extremity of the rocky and forested peninsula of the Spangereid peninsula. It is about 40m high and lies on red, rugged, and uneven land. A main light is shown from a tower.

Neskletten and Lamekletten, two small banks within 1.5 miles S and 2 miles WSW, respectively, of Lindesnes, have least known depths of 25m. In heavy weather, the sea breaks on Neskletten.

Bispen, a small round above-water rock marked by an iron beacon, is located about 1.3 miles W of Lindesnes and is the southernmost of all the dangers W of Lindesnes. In rough weather, the sea breaks constantly on the shoals N and E of Bispen.

The coast between Lindesnes and Einarsneset, about 10 miles WNW, is indented. From the offing, the land appears to form a large bay studded with islands and islets.

Skarvoy, about 6 miles NW of Lindesnes, and Faeroy, about 0.7 mile E of the S extremity of Einarsneset, can be easily identified. The former has a hill resembling a sugarloaf in its SW part.

1.5 Gronsfjorden (58°02'N., 7°02'E.) is about 5 miles long and up to 1 mile wide. It trends in a general NE direction along the NW side of the Spangereid peninsula. Easy of access, it is entered about 2 miles NNW of Lindesnes at the SE end of Raevoy. Gronsfjorden is connected at its inner end with Lenefjorden by Jasundet.

Several islets and numerous rocks and shoals extend about 1 mile W and 2 miles S of Raevoy. Sveinene, two small low rocks which are almost always marked by breakers, are located about 0.7 mile ENE of Bispen.

There are general depths of 146 to 183m, with few islets or dangers.

Jasundet (58°04'N., 7°09'E.), which connects Gronsfjorden with Lenefjorden, is very narrow and has a least fairway depth of 3m; a bridge, with a vertical clearance of 14.9m, spans the narrows. Two 1.8m rocks are located in the passage, one on either side of the channel. Currents in Jasundet attain velocities of 3 or 4 knots.

Lenefjorden has great depths throughout most of its 5.25 miles length, but can only be reached by vessels that can pass through Jasundet.

1.6 Stusvik (58°00'N., 7°02'E.) (World Port Index No. 23525), on the E side of Gronsfjorden, has a harbor for small vessels. The depth between the jetties is 6.9m; farther in, depths from 3.7 to 6.9m are found. The seas in the harbor may become quite rough during S and SW winds.

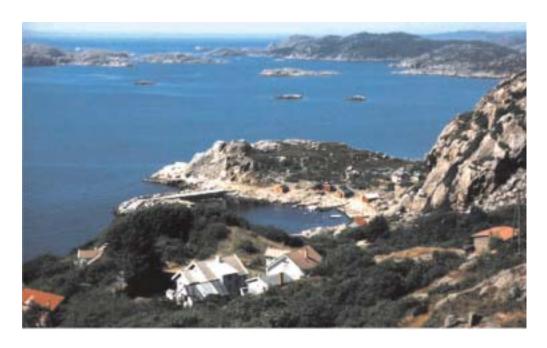
Hovdebukta (58°04'N., 7°06'E.), on the NW side of the fjord, is a good harbor with depths up to 30m, sand, near its head.

Flatstadbukta (58°05'N., 7°07'E.), on the N shore of the fjord, has anchorage, in 16.9m, mud. Care must be taken to avoid a 2.7m rock that lies in the E side of the bay.

Asevagen, about 0.4 mile E of Flatstadbukta, is a good harbor with anchorage in 24 to 26m, mud. The best anchorage is near the W part of the bay. The entrance to Asevagen is restricted by an overhead cable with a clearance of about 15.2m.

During good weather, no difficulty should be experienced in entering Gronsfjorden. Strong W winds, a heavy sea, and the backwash from the mainland sometimes combine to make steering difficult.

Anchorage.—Anchorage can be taken in Raevoysund (58°02'N., 7°00'E.), the narrow passage between the N end of Raevoy and the mainland, and in Hundalshamn. A light is shown on the NW side of the passage. Vessels with local knowledge can anchor in the W part of Raevoysund, N of the NW extremity of Raevoy, in 29 to 40m, clay. Raevoysund is spanned at its W end by a fixed bridge with a vertical clearance of 20m. A light is shown from the middle of the bridge. Small vessels can anchor, in 20 to 29m, in Hundalshamn.



Stusvik

Numerous above and below-water dangers, some of them marked by iron perches or beacons, lie in the several approaches to Raevoysund.

1.7 Langholm (58°02'N., 6°58'E.), Sutnoy, Kjerringoy, and Haoy are located within 0.75 mile NW of Kjepsoy (58°01'N., 7°00'E.). They are nearly joined together by their fringing shoals. A group of rocks, partly above water, lie about 183m SW of Langholm. A detached 11m patch, about 183m farther SW, is the outermost shoal in this vicinity.

Detached islets, rocks, and shoals extend up to about 0.5 mile from the W side of Marquee and Kjepsoy.

Rosfjorden, which is easily recognized from seaward, lies about 2 miles NW of Gronsfjorden.

From **Hausvigodden** (58°03'N., 6°59'E.), the E entrance point, the fjord trends NNE for about 5 miles and has few dangers. A light is shown from the point. There are some good anchorages on both sides of the fjord. This deep fjord has a maximum width of 1 mile; its narrowest part, with a width of about 0.1 mile, is located about midway through the fjord. General depths in the approaches and inside the fjord are 55 to 146m.

The approach to Rosfjorden lies between **Herreholmen** (58°02'N., 6°58'E.), a moderately-high islet of reddish color located about 0.2 mile NW of Sutnoy, and Ulleroy, an 86m high island nearly 1 mile WNW. A light is shown from a wooden hut on the NW extremity of Herreholmen.

Midtfjordenskjaer, about 0.4 mile WNW of the W extremity of Herreholmen, is marked by a black beacon with a white band. A 7.6m shoal patch lies about 183m N of Midtfjordenskjaer.

Ytre Rosfjordenskjaerene and Indre Rosfjordensk-jaerene, two groups of rocks, partly above water, are on the W side of the Rosfjorden approach between Midtfjordenskjaer and the mainland to the N.

Store Kubbesteinen and Lille Kubbesteinen, two abovewater rocks, are located on the W side of the approach about 0.5 mile and 0.2 mile, respectively, SSW of the SE extremity of Ulleroy.

Bradsteinen, with less than 1.8m, lies between the two rocks and somewhat to the W. Other rocks lie between Bradsteinen and Ulleroy.

Bjorneskjaer, about 0.1 mile NNW of Langholm, is above water; other above and below-water rocks lie within 137m N of it.

Bjorneskjaerflu lies awash about 183m SSW of Bjorneskjaer.

1.8 Grotholm (58°02'N., 6°58'E.) is the larger of two islets that lie about 0.25 mile NE of Herreholmen. Several rocks, with depths of 1.8 to 4.6m, lie within 183m W, NW, and E of Grotholm; two small islets and some rocks lie between the latter and the mainland.

Skonevigflu, with a depth of 4.6m, is located on the E side of Rosfjorden approach about 0.2 mile S of Hausvigodden.

Teroy (58°03'N., 6°56'E.) is located about 0.1 mile N of Ulleroy, from which it is separated by Ulleroysund. A light is shown from the SW extremity of Teroy.

Andreholm lies close off the W entrance point of Rosfjorden, about 0.4 mile WNW of Hausvigodden. Bukkene, about 0.1 mile NE of Andreholm and the outermost danger on this side of the fjord entrance, is awash; it is marked by an iron post.

Other rocks, above and below-water, lie close W and NW of Bukkene. A rock, with a depth of 5.9m, lies about 137m NW of Hausvigodden.

1.9 Eitlandskjaera (58°03'N., 6°59'E.), partly above water, lies on the E side of the fjord about 0.6 mile NE of Hausvigodden. Boroflu, 0.2 mile farther NE is a reef with depths of 2m or less over it.

Boro, the largest island in Rosfjorden, is on the E side of the fjord about 1 mile within the entrance. Shoal water extends about 183m from the W shore of Rosfjorden abreast Boro.

Shoal water also fringes the head of the fjord for a distance of about 183m offshore and several other short sections of the W shore, particularly in the narrows of the fjord.

An overhead cable, with a clearance of 14m, spans the narrow passage between the mainland and the E extremity of Boro.

A light is shown from Syrhoved, about 2 miles NNE of Boro, on the W side of the fjord.

Anchorage.—Anchorage can be taken in Borobukta, located on the NE side of Boro, in depths of 25m, clay. An 8.7m shoal is located about 91m off the N end of Boro.

Anchorage can also be taken on the W side of the fjord, at Agnefest, in depths of 25 to 35m.

Directions.—Vessels approaching Rosfjorden should pass to NW of Herreholmen and Skonevigflu and SE of Store Kubbesteinen, Midtfjordenskjaer, and Ytre Rosfjordenskjaerene. One white sector of Hausvigodden light leads clear of all dangers.

Pass Hausvigodden at a safe distance, taking care to avoid the 5.9m rock about 137m NW of it. After passing that point, another white sector of the same light indicates the fairway as far N as Boro. Vessels are then guided by the white sector of the light shown from Syrhoved, and N of Syrhoved by the white sector astern.

1.10 Spindsfjorden (58°05'N., 6°56'E.), the next fjord W of Rosfjorden, trends NNE for about 3 miles from the SE end of Skarvoy. Its approach lies between the mainland, on the E, and Ulleroy, Teroy, and Skarvoy, on the W. Two small bays extend E from its S part. Numerous dangers border the narrow channel and local knowledge is required.

Ystesteinen (58°01'N., 6°53'E.), a cluster of above and below-water rocks, lies about 2 miles SW of Ulleroy. This isolated group is outside all other dangers in the area and will be easily recognized. Ostre Steinsflu, a 16.5m patch, lies about 0.2 mile ESE of the largest rock.

Midfjordenskjaer (58°02'N., 6°54'E.) is located about 1 mile NE of Ystesteinen. A detached 7m rock lies about 0.1 mile NE of Midfjordenskjaer. Store Korken and Lille Korken, above-water rocks, and a detached 1.8m depth, lie between Midfjordenskjaer and the SE extremity of Vikelen, about 0.7 mile NE.

Breiflu, with depths of 3.7 to 7.8m, lies about 0.5 mile S of Vikelen. Several 6.4 to 8.7m depths lie between them.

Roholme (58°02'N., 6°52'E.), about 1 mile W of Vikelen, reddish-colored, and easily identified, is the largest of a group of four islets. A 5m depth lies about 0.2 mile N of Roholme. Nordre Roholmflu a 14.6m depth about 0.2 mile NNW of Roholme.

Odegardsgrunn, with a depth of 16.5m, and Kletten, with a depth of 26m, are located about 1 mile S and 1.25 miles SW, respectively, of Roholme.

Ostre Roholmflu, about 0.4 mile SE of Roholme, has a depth of 4.5m; a 10.1m depth lies between them.

Vestre Bradsteinen (58°02'N., 6°52'E.), marked by an iron perch and almost always marked by breakers, is located about 0.4 mile S of Roholme. Vestre Roholmflu, about 0.5 mile SSW of Roholme, has a depth of 10m.

1.11 Ulleroysund (58°03'N., 6°55'E.), between Ulleroy and Teroy, is a good roadstead where vessels can anchor, in 29 to 35m, sand and clay. The best anchorage is located about 0.1 mile SW of the light on the SW side of Teroy.

Directions.—Of the two principal approaches to this sound, the E is the better and the only one described.

Approaching from the S, steer for the white sector of the light on the E extremity of Ulleroy, which leads W of Bispen and the islets and dangers extending SW from Marquee and then E of Store Kubbesteinen.

After passing Store Kubbesteinen, steer to pass between Lille Kubbesteinen and Midfjordenskjaer, then through Ulleroysund, taking care to avoid a 7.8m depth, marked by a black and red spar buoy, which lies about 0.1 mile NE of Teroy light, and keeping close to Ulleroy when abreast Teroy to avoid the foul ground extending about 91m S from the latter islet.

The green sector of the light shown from the SW extremity of Teroy, bearing between 306 and 319°, leads through the E part of Ulleroysund to within about 0.3 mile of the light.

Skarvoyhamn is on the S side of Skarvoy, the next island N of Teroy. Anchorage can be taken in the outer part of the harbor in 29 to 40m. Skarvoyflu, a 4m depth, lies about 0.2 mile N of the W extremity of Teroy. A 1m depth, marked by an iron perch, lies about 0.15 mile S of Skarvoyflu.

Sandholmane are two islets that lie on a reef on the W side of Skarvoyhamn and close within the harbor entrance. The reef fringes and extends about 137m from the shore.

1.12 The approach to the port of Farsund lies between Langoy and a number of islets and reefs that extend NE toward that island from **Einarsneset** (58°03'N., 6°47'E.).

Langoy (58°04'N., 6°52'E.) is the largest island in the approach and lies on the NE side of the principal fairway. A light is shown from a position about 0.2 mile NW of the S extremity of Langoy. A light is shown from the W side of Langoy in a position about 1 mile NNW of Bremerodden, the S extremity of Langoy.

A light is shown from Sondre Katland (Sore Katland), a small inlet located in the approach to Farsund, about 1 mile E of the SE extremity of Einarsneset.

A light is shown from the S side of Store Haoy, an islet which lies about 0.1 mile NW of the NW extremity of Langoy.

Several islets and some rocks and reefs lie between Store Eigeroy, on the W side of the approach to Farsund and Store Haoy.

A light is shown from the SE extremity of Sandoy, which is located near the mainland about 0.6 mile WNW of Sondre Katland.

1.13 Faeroyflua, a 3.2m depth, marked on its S side by a lighted buoy, lies about 1 mile SSW of Sondre Katland. Villaflua, with a depth of 11.9m, and Austre Mellomflua, with

a depth of 5.5m, are located about 0.2 mile NE and 0.25 mile N, respectively, of Faerovflua.

Gunnarskjaer, awash, and Skarveskjaer, with a depth of 4.6m, lie on the SE edge of the shoal that extends up to 0.3 mile S and SE from Faeroy. Kalveflu, with a depth of 1.8m and marked by a buoy, is on the W edge of the shoal. Breakers usually mark these dangers.

Revoyflu, marked on its N side by a buoy, is located about 1 mile SW of Sondre Katland. Revoyskjaer, marked by an iron beacon, lies near the S end of Revoyskjaergrunn about 1 mile SW of Sondre Katland.

Revoy (58°03'N., 6°48'E.), about 0.3 mile S of the SE extremity of Einarsneset, lies on foul ground together with a few other smaller islets. A beacon stands on Revoy. A 7.3m rock is located about 0.3 mile WSW of the S extremity of Revoy; a 12m depth lies about 183m farther WSW. Kraka is the southeasternmost islet in the group.

Sjuhausflua, marked by an iron perch, is located about 0.2 mile W of Revoy; a reef extends about 0.1 mile N from it.

Foul ground, on which the islet of Klubben lies, extends nearly 0.3 mile E from the SW end of Einarsneset.

Oddeflua, about 0.1 mile NE of Revoy, has a depth of 2.7m and is marked by a buoy.

1.14 The principal approach channel to Farsund leads between Faeroyflua and the Roholmane group; then between Sondre Katland and Lindholmbaen; then W of Svartskjaer and Brattholme; E of Bukkegrunnane, Futeskjaer, and Risholme; and then between Lille Haoy and Store Haoy and toward the respective parts of the harbor.

Pilotage.—Pilotage is compulsory for merchant vessels and is advisable for all vessels. Pilots should be requested through the pilot stations at Hidra or Oksoy. Pilots board vessels about 1 mile S of Faeroy.

Several dangers lie near this channel, but a least depth of 33m is charted in the fairway as far as the outer anchorage of the port.

A 14m depth is charted about 0.4 mile SSE of Sondre Katland; a depth of 10.1m lies about 0.5 mile ENE from the same islet.

Lindholmbaen, a 4.6m depth, lies on the E side of the fairway about 0.2 mile WNW of the N end of **Lindholmen** (58°03'N., 6°52'E.), a 26m high islet, and is marked by a spar buoy. A 14m depth lies about 0.5 mile W of the same extremity.

1.15 Bukkegrunnane (58°04'N., 6°51'E.), marked on its E side by a spar buoy, is the E edge of an area of reefs and islets which extends from a position about 0.4 mile NE of Sondre Katland to a position 0.5 mile NNW of that islet. A detached 4.8m depth lies about 0.2 mile NE of Sondre Katland.

Lyngholme is located about 0.7 mile NNE of Sondre Katland and about 0.2 mile SE of the S end of Uroy. A rocky patch, with a least depth of 3.2m, extends about 0.2 mile S from Lyngholme, and a detached 5m depth lies about 0.2 mile SE of it. A 7m depth lies midway between Lyngholme and Uroy.

Futeskjaera, above water, lies about 0.1 mile E of Lyngholme.

A 3.2m depth lies between Risholme and Uroy.

Sondre Haoyflua, lying between the NW end of Langoy and Store Haoy, has a depth of 4m and is marked on the SW side by a buoy.

Vestre Haoyflua, on the SW side of the fairway 0.1 mile SW of Store Haoy, has a depth of 4.7m over it and is marked by a buoy. Nordre Haoyflua, a 5.3m depth marked by a light, lies on the NE side of the channel about 0.1 mile WNW of Store Haoy.

Lille Haoy and Lamholme lie on the SW side of the channel, about 0.1 mile WSW and 0.3 mile W of Store Haoy.

Engoy and Faroy front the town of Farsund, which is situated about 1 mile NW of Store Haoy. Engoy is the S islet of the two. Skyskjer, about 0.4 mile SE of Engoy, is one of a group of above and below-water rocks and is marked by an iron beacon.

Fisholmflua, on the NW side of Fisholmen about 0.2 mile SE of Engoy, is marked by an iron perch.

1.16 Farsund (58°06'N., 6°49'E.), the inner harbor, lies between Engoy and Faroy on the E, and the mainland on the W. The outer harbor lies between Fisholmen and Sundsodden, a mainland projection about 0.3 mile SSW of Engoy. A causeway extends from the NW end of Faroy to the NE end of the peninsula, on which the town of Farsund stands on the side of a steep hill. Athreespan Bridge, with a maximum clearance of 22m, connects Faroy with the E entrance point of Lyngdalsfjordenen.

Winds—Weather.—The prevailing winds in winter blow from S and SE; in summer nearly half of the time the prevailing winds blow from N or NW. These sea winds are largely responsible for the very mild temperatures in winter and the overall lack of extreme temperatures. Precipitation is high. The harbor is ice free.

Tides—Currents.—The tidal rise is about 0.3m. No local currents are reported in the Farsund approach. Winds have some effect on tides.

Depths—Limitations.—A depth of 33m is available through the approach, but Nordre Haoyflua, a 5.3m depth, lies close to the channel in the narrows between Store Haoy and Lille Haoy. General depths in the outer harbor are 14.6 to 29m; in the inner harbor off the town the depths are 4.5 to 8.8m. The large quays have depths of 4 to 6m alongside.

Aspect.—A light is shown from the SW side of Faroy in range with a light shown from the SE side of Engoy. Lights are shown from the S side of Faroy and a post in the water close E of the N extremity of Engoy.

Pilotage.—Pilotage within the harbor is not required.

Anchorage.—Small vessels can anchor in the inner harbor;; the usual anchorage is N of Gulsteinen between the town and Gasholme. Mooring rings and dolphins are located along the shore. Larger vessels can anchor anywhere between Gulsteinen and Skjolnes, the S entrance point of Lundevagen about 0.25 mile SE of Sundsodden.

1.17 Lundevagen, the inlet immediately S of Farsund, extends W a little over 1 mile from its entrance between Sundsodden and Skjolnes and narrows to a width of about 137m in a position about 1 mile from the entrance.

Kraka, an above-water rock, lies about 0.1 mile W of the narrows. A 3m depth, marked by a buoy, lies about 73m SE of

Kraka. When passing through the narrows, vessels should keep close to the S shore.

A submarine cable is laid across the entrance to Lundevagen.

A concrete wharf, 135m long, with a depth alongside of 14.5m, lies on the S shore of the inlet near the entrance. Another concrete wharf, 106m long, with depths alongside of 5 to 9m, lies on the S shore close to the head of the inlet.

Anchorage.—Small vessels can take sheltered anchorage in the inner part of Lundevagen, in 16.5 to 18.3m, good holding ground. The head of the inlet shoals to a distance of about 0.1 mile offshore.

1.18 Saltrak (58°03'N., 6°49'E.) is an island close SW of Sandoy. Palsflua, on the end of a spit extending about 0.2 mile SW from Saltrak, is awash, always breaks, and is marked by an iron perch. Sauflua is located on the edge of foul ground that extends about 0.1 mile E from the SE extremity of Einarsneset. It has a depth of less than 1.8m and is marked by an iron perch.

Flama (58°04'N., 6°50'E.), a roadstead, lies between Faeroy, on the S, Sandoy and the mainland on the W, and Lille Eigeroy on the N. Reefs and islets extend N from Sondre Katland on the E. The roadstead is roomy and easy of access.

Anchorage.—Anchorage can be taken here, in about 33m, clay, with good holding ground.

Katlandflua, with a depth of less than 1.8m and lying within 0.1 mile W of Sondre Katland, is marked by an iron perch and a buoy.

Foeroysundflua, a detached 8m depth, lies close to the Lille Eigeroy range line about 0.2 mile WNW of Sondre Katland.

Two unmarked rocks, with depths of 7.6 and 9m, lie on the W side of the roadstead within about 206m of the E side of Sondoy. The deeper rock never breaks.

Engelskjerflua, on the E side of the roadstead about 0.3 mile NNW of Sondre Katland, is marked by a buoy.

Raudsteinflua, at the N end of the dangers extending N from Sondre Katland, has a depth of less than 1.8m and is marked by an iron perch.

A detached 6.9m depth lies in the NE part of the roadstead about 0.3 mile ESE of the S extremity of Lille Eigeroy.

Directions.—Flama roadstead is entered via Ostre Faeroysund, the passage between Sondre Katland and Faeroy, which can be used in all weather conditions.

This channel is approached between Faeroyflua and the Roholme group until the range lights shown from Lille Eigeroy are in line. When on the range line, care must be taken to avoid Foeroysundflua.

1.19 Kveldsund (58°04'N., 6°54'E.) separates the NE end of Langoy from the W extremity of Ytre Bugdoy. This narrow, rock obstructed channel is near the E end of Indre Spindsfjorden, 0.25 to 0.5 mile in width, lying between Langoy and the mainland, N. It trends E from Store Haoy for about 2 miles. Several anchorages are located in small coves that lead off from the inlet.

Vikholme lies close off the N shore of the inlet about 0.5 mile NW of the NE extremity of Langoy. Shoal water extends about 137m S from Vikholme.

An overhead cable, with a clearance of 30m, spans the inlet, about 0.3 mile E of Vikholme. A submarine cable crosses the inlet about 0.3 mile W of Vikholme.

Midfjordenskjeret, a detached above-water rock, is located in the W approach to the inlet in a position about 0.2 mile NW of the N extremity of Store Haoy. A 16m depth lies about 0.2 mile ESE of Midfjordenskjeret.

Anchorage.—Anchorage may be obtained, in a depth of 14m, between the N side of Vikholme and the mainland; in a depth of 22m, in a creek on the N side of Langoy, about 0.4 mile S of Vikholme; and in a depth of 15m in a cove about 1 mile E of Vikholme.

Anchorage for small vessels with local knowledge may be taken, in depths of 8m to 14m, sand, off Birkenes, 0.6 mile ENE of Store Haoy.

1.20 Lyngdalsfjorden extends about 4 miles NE from Farsund and then divides into two arms, each about 4 miles long. The E arm continues under the name of Lyngdalsfjorden; the NW arm is known as Oftefjorden. About 1 mile from the head of the latter fjord, Drangsfjorden branches NE for about 2 miles

A bridge, with a vertical clearance of 22m at the center, spans the entrance of Lyngdalsfjorden. About 1 mile within the entrance, an overhead cable, with a vertical clearance of 22m, crosses the fjord.

Oen (58°06'N., 6°47'E.), an island in the SW part of Lyngdalsfjorden, is separated from the mainland on its S, W, and N sides by channels which are, in places, both narrow and shallow. Helvigfjorden, W of Oen, has a depth of 3.2m in its approach, which leads S and W of the island.

With the exception of a shoal extending across the entrance of the E arm of Lyngdalsfjorden and a few scattered dangers, the fjordsare deep throughout.

A 5m shoal lies on the E side of Lyngdalsfjorden entrance about 137m W of the NW extremity of Spindsodden. Submarine cables are laid from Farsund to Oen and E of Kilsholme to the mainland. A submarine cable is laid across Lyngdalsfjorden, about 1 mile E of Farsund.

From the S entrance point to the inner part of Lyngdalsfjorden, a submarine cable is laid NW across Oftefjorden to a position about 0.5 mile NE of Herred, at the head of a bight indenting the W side of Oftefjorden.

Another cable is laid from the S entrance point along Lyngdalsfjorden to a position about 0.5 mile W of Lyngdal, located at the head of the fjord.

Anchorage.—Anchorage can be taken in Bjorsviken, on the E side of Oen, in 11.9m, pebbles and shells.

Several anchorages are located in the E arm of Lyngdalsfjorden; a 5.5m channel leads across the shoal fronting this arm.

Anchorage can be taken off Herred, in 14.6 to 22m. Several dangers lie in the NE part of the bight that Herred lies at the head of. An anchorage is also located near the head of Oftefjorden, in a depth of about 27m.

1.21 The coast between Einarsneset and Steinodden, about 8.5 miles NW, is indented by several shallow bights. The first

1.5 miles of the coast is fringed by reefs and islets to a distance of about 1.5 miles offshore.

Along the about 7 miles stretch of Lista from Steinodden to Rauna, the bottom slopes steeply. This leads to sea waves being both reflected and deflected. In addition, the current conditions in the area are variable with eddy formations, and the sea can be very rough. Heavy breakers have been observed.

Hummerdus is an islet close W of the S extremity of Einarsneset. Between the islet and Havik, about 1.5 miles WNW, there is a considerable extent of reddish-colored sand, which has sometimes been mistaken for Mandalssand, a strip of yellow sand about 12 miles E of Lindesnes, to which it certainly bears some slight resemblance. Such a mistake is possible in thick weather.

Havik (58°04'N., 6°44'E.) appears as a dark brown hill, rising from a small point 2 miles WNW of Einarsneset.

Svaneflu (58°03'Ñ., 6°45'E.), a 2.1m depth located about 1.5 miles SW of Einarsneset and marked by a spar buoy, is the outermost of the many dangers in the vicinity. Between Svaneflu and Rauna the known dangers lie within 1 mile of shore.

Rauna (58°04'N., 6°40'E.), an island, is located about 3 miles W of Einarsneset. Shoal water extends up to 0.3 mile S from Rauna.

Ostre Rauneflu, a 2.5m depth, lies near the coastal bank about 0.25 mile SE of Rauna. A 1.5m depth lies about 0.3 mile ENE of Ostre Rauneflu. Vestre Rauneflua is a 3.5m patch about 0.7 mile W of Rauna.

1.22 Brekneholme (58°06'N., 6°35'E.) is an inconspicuous flat islet, consisting entirely of pebbles and located a little over 3.25 miles NW of Rauna.

Listahamn, lying between the SE end of Brekneholme and the mainland, is protected by a mole extending from the islet and one extending WNW from the mainland.

Small vessels may anchor in Listahamn, in depths from 4 to 6m, with their sterns secured to mooring rings because of limited swinging room. During SW storms, there is a considerable current in the outer harbor.

Several above and below-water rocks lie within about 152m of the S shore of Brekneholme.

A projecting quay on the E side of Listahamn has depths up to 4m alongside.

Lista Light (58°07'N., 6°34'E.), exhibited from a stone tower, 34m in height, is on a level plain which projects about 2 miles from the foot of the high land between Farsund and Listafjorden and terminates in a low sandy shore bordered by ranges of sand hills.

Steinodden to Svaholmane

1.23 Steinodden (58°07'N., 6°33'E.) is the W extremity of the peninsula of Lista. Numerous above and below-water rocks lie within 0.4 mile of Steinodden.

Verevagen is a small shallow cove about 0.5 mile ENE of Steinodden. Perches and beacons mark its two entrance channels. A flagstaff stands at the head of the cove.

Stavestoflu, a 1.8m depth, lies 0.2 mile offshore about 1 mile NE of Steinodden.



Lista Light

Varnesholme lies close NW of **Varnes** (58°11'N., 6°38'E.), the S entrance of Listafjorden. Rocks border the SW and NW sides of this small islet.

1.24 Listafjorden (58°11'N., 6°37'E.) branches to form Fedafjorden, Stolsfjorden, and Flekkefjorden. Fedafjorden runs NE between steep forested shores, often rising to a height of about 305m. Flekkefjorden runs N from Stolsfjorden and has steep shores up to the port of Flekkefjorden at its head.



Listahamn from SW

Brekneholmen Light (58°05′N., 6°36′E.) is exhibited from a white lantern on piles on Brekneholmen, a flat islet consisting entirely of pebbles, which is not easily distinguishable.

Listahamn, between Brekneholmen and the mainland, has a narrow entrance formed by two breakwaters.

Andabeloy and Hidra, large and hilly islands, lie N and NW of Listafjorden.

Farther NW, the coast is craggy and treeless, rising steeply to a height of about 183m, and is indented only by a few small inlets. The fjords are deep and mostly clear of dangers.

The fjord gap between Hidra and Varneset is only about 1 mile wide, and with an outgoing current, the sea will become rough. Large depths of about 300m, and a thereby steep shore, means that reflection will cause a rough sea. Refraction can also occur for certain directions.

Dangers on the NW side of Listafjorden include Myskeskjaerne and Hunden. Myskeskjaerne, two groups of low rocks, lie within 0.2 mile of the SE side of Andabeloy.

One group is located about 0.7 mile NE of Hogsaedeskroa, the S extremity of Andabeloy; the other group, which is marked by a beacon 2m high, lies about 0.25 mile farther NE.

Hunden, one of a group of above and below-water rocks, lies about 183m offshore, about 0.2 mile SSW of **Tarmevikodden** (58°13'N., 6°41'E.), the E extremity of Andabeloy.

Eidsfjorden, branching E for about 1 mile from the SE side of Listafjorden, has steep-to shores and ample depths.

1.25 Ytre Pollen (58°11'N., 6°42'E.), at the head of the inlet, affords good anchorage to small vessels, but during W gales the sea breaks across the entrance. Buoys mark the approach to the anchorage. Hausen, a rock on the S side of the entrance, is marked by an iron perch. Small vessels can also take sheltered anchorage, in about 7m, off Vikane, about 0.6 mile E of Varnes.

Fedafjorden, a continuation of Listerfjorden, extends NE for about 6 miles from its entrance between **Ostre Stolen** (58°13′N., 6°43′E.) and a point about 0.5 mile SE. The fjord is deep to within about 0.3 mile of its head, where a shoal fronts the mouth of the river Kvina.

The NW shore of Fedafjorden is more irregular than the SE shore. Anchorages in the fjord are all located on this side.

Sageflua, with a least depth of 5m, lies within 0.2 mile offshore in a position about 3 miles NE of Ostre Stolen. Binesflua, with a 9m depth, is located about 0.6 mile NE of Sageflua.

A small bay lies off the settlement of Feda, close NE of Binesflua. Vessels can anchor in the middle of the bay, in 40m, hard sand. A stone beacon and two dolphins stand at the head of the bay.

Agnholmen $(58^{\circ}16^{\circ}N., 6^{\circ}50^{\circ}E.)$ lies on the N shore, close NE of Feda.

Leirvik, located on the NW side of Fedafjorden, is a timber-handling place, with a concrete pier about 92m long and a depth of 5.6m.

Oye, the site of a smelting works, lies across a small bay NE of Leirvik. A concrete quay, 137m long, is located at Oye; a roro berth on its N side has a depth of 8m while its S side has a depth of 12m alongside. Two buoys mark the edge of shoal water SE of the quay. A quay, 40m long, with a depth alongside of 3 to 7m, lies close NW of Oye.

Tides—Currents.—During floods, the outgoing flow in the narrowest part of the fjord, near Agnholmen, can attain a velocity of up to 2 knots. The velocity is usually 0.5 knot.

1.26 Strandsfjorden (58°13'N., 6°39'E.), branching N between Hidra and Andabeloy, is entered between Klubben and Hogsaedeskroa.

The fjord is deep and relatively free from dangers. It trends N for about 2 miles to **Kokodden** (58°14′N., 6°39′E.), a prominent mainland point, where it joins Hidrasundet, and then NE toward Risholmsundet, the channel along the N side of Andabeloy.

Katterauva is an islet lying close offshore on the E side of Strandsfjorden, about 0.3 mile NW of Hogsaedeskroa. Rocks, with depths of less than 1.8m, lie near its SW end.

Abelnes is a village on the NE shore of a small cove about 0.3 mile N of Kokodden. Good anchorage can be taken off Abelnes, in 14.6 or 16.5m, sand and clay.

Risholmsundet (58°14'N., 6°40'E.), connecting Strandsfjorden and Stolsfjorden, is a narrow channel between the N end of Andabeloy and Risholmen, a small islet about 0.5 mile E of Kokodden.

Engelsholmen lies in the W approach to Risholmsundet. The islet is located close off the NW side of Andabeloy, about 0.3 mile SE of Kokodden. Two buoys, moored close W and N of the islet, mark the edges of the reef which fringes it.

Risholmen is the southernmost of a chain of islets, rocks, and shoals that almost completely obstructs the passage between the mainland and Andabeloy. Foul ground extends about 137m W from Risholmen. A lighted iron perch, about 91m off the E side of the islet, marks the SE edge of a foul area. Risholmbaen, close off the S side of Risholmen, is marked by a light and an iron perch.

Anchorage.—Good anchorage can be taken in most places on the bank between the N end of Andabeloy and the mainland. The bottom is mostly stiff mud and sand. The best anchorage is between Engelsholmen and Risholmen, in a depth of 20m.

1.27 Stolsfjorden (58°14'N., 6°41'E.) is entered between Tarmevikodden and Ostre Stolen and extends N about 3 miles to the narrows of Straumsundet. The fairway through the fjord is deep and clear.

Terneholmen (58°14'N., 6°41'E.), with a smaller islet and some foul ground near it, lies close off the NE side of Andabeloy. A stone breakwater extends S from Terneholmen to the coast of Andabeloy.

Aleskjera, a group of above and below-water rocks, lies up to 0.2 mile N of Terneholmen is are marked by iron perches.

Straumsundet is the middle one of the three narrow channels that lead N among the several islets in the passage separating Stolsfjorden and Flekkefjorden. These islets, from S to N, are Kjeoy, Litle Torsoya, and Store Torsoya. The least charted depth in the fairway of Straumsundet is 13.5m.

Stamdalsflua, a 1.8m depth marked on its W side by a buoy, lies about 183m offshore and about 0.2 mile S of Kjeoy.

Anchorage.—Small vessels with local knowledge can anchor in a cove on the S side of Kjeoy, in depths from 10 to 17m, sand.

There is anchorage for vessels of moderate size between the SE end of Kjeoy and Stamdalsflua, in a depth of 33m, clay.

1.28 Flekkefjorden extends N about 1.5 miles between Straumsundet and Gronsundet. An islet group extends up to about 0.2 mile from the W shore. Fairway depths through the fjord are ample.

Anchorage.—Anchorage is indicated in the NW part of Flekkefjorden, in about 25m. Care must be taken to avoid a 4.8m depth on the E side of the anchorage close SW of the entrance to Gronsundet.

Gronsundet is the narrow channel joining Flekkefjorden and Tjorsvagbukta. A buoy marks the E and W sides of the fairway through the channel. The least charted depth through the fairway of the channel is 8.7m over a width of 60m. Range lights, shown from the NW shore of Tjorsvagbukta, lead between the buoys through Gronsundet.

Tjorsvagbukta, extending about 0.5 mile N from Gronsundet and up to 0.5 mile in width, forms the harbor for the town of Flekkefjorden.

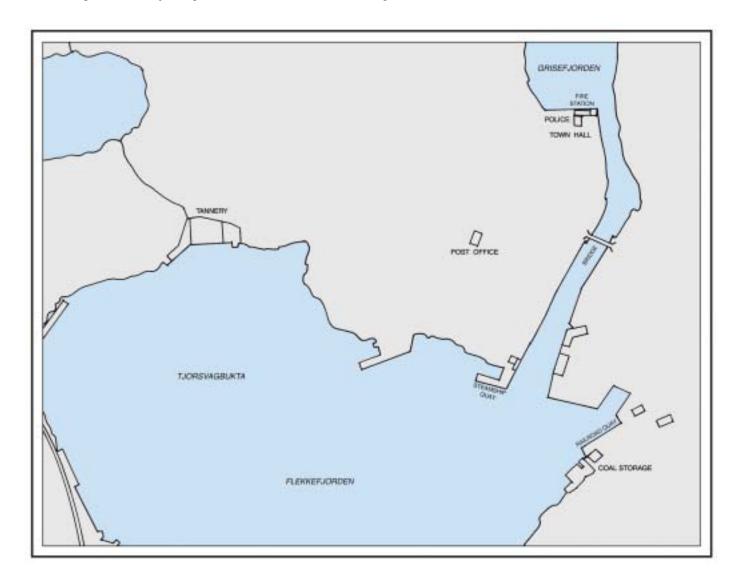
1.29 Flekkefjorden (58°18'N., 6°40'E.) is located in the N part of Tjorsvagbukta. Its harbor is ice free at all times. The harbor comprises all of Tjorsvagbukta and the narrow channel

connecting that small bay and Grisefjorden. A drawbridge, spanning the channel, joins the two parts of the town. Vessels with a draft up to 3.7m can use the channel.

The harbor is free from dangers, except for the 5.2m shoal immediately within the entrance close N of Gronsundet. On either side of the harbor, the country is rocky and broken up by small lakes. Sparsely-wooded hills rise on the NW to over 274m and on the SE to over 122m.

Depths—Limitations.—The least charted depth of 8.7m is found in Gronsundet. There are quays up to 86m long, with depths of 3 to 8m alongside. Yachts berth between the W entrance point of the channel leading to Grisefjorden and the drawbridge.

Anchorage.—Anchorage can be taken almost anywhere in Tjorsvagbukta, in up to 34m, stiff mud and good holding ground.



Flekkeffjorden

1.30 Rasvagen (58°14'N., 6°34'E.), a deep, narrow inlet indenting the S side of Hidra for about 2 miles in a NNW direction, has several coves and anchorages and provides good shelter. A barrier of islets and rocks, among which are five narrow passages, stretches across the entrance between Nesodden, the E entrance point, and a point about 1 mile NW.

A submarine pipeline is laid in the N part of the inlet. The inlet is crossed by an overhead cable with a vertical clearance of 21m.

Flekkefjorden can be approached from Listafjorden either by way of Stolsfjorden or through Strandsfjorden and Risholmsundet and then through the N part of Stolsfjorden. Vessels from W can also approach through Hidrasundet and then through Risholmsundet.

Hobmannen, a group of rocks, is located about 91m offshore about 0.9 mile ESE of Nesodden. Saueholmane is a small group of islets and rocks lying close offshore about 0.3 mile ESE of Nesodden.

Sakseskjeret, marked by a beacon with a white band, lies about 0.6 mile SE of Nesodden. The beacon should be given a berth of at least 152m to avoid the dangers extending NE from it.

Baan is a small, low rock about 0.1 mile SW of Sakseskjeret. A rock lies awash close E.

Sjonga, the outermost of a group of rocks about 183m N of Baan, and Skarveskjerflua, the westernmost of a group of rocks about 0.3 mile farther NW, are each marked by an iron perch.

1.31 Rasvagholmane (58°13'N., 6°35'E.) is a group of small islets and rocks on the E side of the inlet, close WSW of the village of Rasvag. An iron perch marks the NW rock by Rasvagholmane.

The entrances into Rasvagen are narrow but not very difficult. Under ordinary circumstances, a pilot will board the vessel in time to take it into the inlet. If a pilot is unable to board, the vessel should stand into Listafjorden or Hidrasundet, both of which are easy of access.

The easternmost entrance, between the coast of Hidra and Sakseskjeret, is the one generally used. It is relatively clear of dangers and is deep. The other entrances require local knowledge. After passing Sakseskjeret, keep E of Naudholme, Lille Hummeroy, and Kregleholme and W of Rasvagholmane.

Anchorage for Rasvag, in the cove fronting the village, is prohibited because of submarine cables. Anchorage may be taken about 0.4 mile NW of Nesodden, off the SW side of the island Kreglingholmen, in depths of 20 to 30m.

A 9.2m patch lies about 91m S of Kreglingholmen.

Caution.—Vessels must not proceed at more than 5 knots in the upper part of Rasvagen when N of Vage.

Breidlia (Breilien) (58°13'N., 6°34'E.) lies in a small cove on the W side of Rasvagen and affords good anchorage, in 16m, sand. Vessels anchor in the middle of the cove and moor with stern lines to mooring rings.

Vage is a small harbor in a bight on the W side of Rasvagen, about 0.6 mile N of Breidlia. Small vessels can find sheltered anchorage here, in 26m, sand. A stern line should be taken to the shore at the head of the bight.

1.32 Kirkehamn (58°14'N., 6°32'E.) (World Port Index No. 23505), on the W side of Hidra, is a good harbor. Heavy seas from the W send in a heavy swell. The harbor is ice free.

Vessels anchor in the bight NW of the church, in depths of from 20 to 30m, mud. Small vessels may obtain anchorage in the E bight, off the village, in a depth of 20m, sand.

There is also anchorage near the NE end of Dragoya, in depths of 16.4 to 20m.

Hidrasundet separates Hidra from the mainland N and can be used by vessels approaching Flekkefjorden from the W. The fairway is free from known dangers and is deep, but is only about 0.1 mile wide at its narrowest part.

From its entrance between Kvalsberget, the N extremity of Hidra, and Napp, the S end of a small peninsula to the N, Hidrasundet trends ESE for about 3 miles to Kokodden, where it joins Strandsfjorden.

Svertingane (58°15'N., 6°30'E.), a group of above and below-water rocks lying within about 0.3 mile NW of Prestoya, are the outermost dangers on the S side of the approach. A 1.5m shoal lies at the W end of the group.

Kadoyflua, a detached 12m shoal, lies about 0.2 mile N of the N end of Kadoya, the island NE of Prestoya.

Stovika (58°15'N., 6°31'E.), on the N side of the W approach to Hidrasundet, is entered a little over 0.75 miles NNE of the N point of Kadoya. It affords good anchorage for small vessels, in depths up to 20m, sand.

Smaller vessels can anchor, in 4m, at the head of the cove. W winds send in a considerable swell. Stovika anchorage is approached between an island group on the SW side of the cove and a rock, awash, located about 137m SW of the E entrance point. Vessels must pass close E of the rock awash to avoid the shore bank extending from the E side of the cove.

1.33 Berefjorden (58°16'N., 6°28'E.) is entered E of Holmen, an islet 0.5 mile NW of Halsodden, the E entrance point. Small vessels with local knowledge can obtain anchorage in a cove NW of Holmen, in depths up to 24m, mud, approaching by the wider channel N of the islet.

Shoal water extends about 18m from the E side of this islet. A power line, 21m high, is reported N of Holmen. Small craft can anchor between **Furuholmen** (58°16'N., 6°28'E.) and the head of Berefjorden, in depths up to 6m, mud; the wider channel S of Furuholmen has a depth of 3.7m.

A hill, 244m high, is located about 0.7 mile NE of Halsodden. Another hill, 218m high, lies about 2 miles NW of Halsodden.

Siragrunnen (58°15'N., 6°20'E.) lies off the outlet to **Ana Sira** (58°17'N., 6°26'E.); the depth varies from 10 to 100m.

The current conditions in the area are very variable. A little further out from land, the coast current runs NE. At the entrance to Ana Sira, the outgoing current has been reported as high as 3 knots.

1.34 Egdeholmen (58°17'N., 6°23'E.) lies close off the E entrance point of Ana Sira. During strong outgoing tidal currents and with onshore gales, the sea breaks on either side of the entrance.

Siragrunnen should be avoided in poor weather. Together with winds from SE, through S to NW, the variable current conditions will cause a rough sea. Even outside the current, the bottom conditions will mean that refraction centers are formed on the shoal with waves from W to NW.

The largest of three quays in Ana Sira is located at the head of the inlet 2 miles ENE of Egdeholmen. It is 50m long, with a depth of 3m alongside, and is approached through a shallow channel marked by buoys.

Between Ana Sira and Buvarodden, about 2 miles NW, and up to a distance of about 2 miles W from that point, there are numerous small islets, rocks, and shoals. The channels among these islets, rocks, shoals and the coast, although deep, should only be used by vessels having local knowledge.

1.35 Jossingfjorden (58°19'N., 6°20'E.), about 0.5 mile E of Buvarodden, lies between Austre Kvalen and Vestre Kvalen, about 183m W. From its narrow, well-defined entrance lying between steep, dark hills, Jossingfjorden extends NE for about 1 mile. The fjord is deep and, within the entrance, is from 0.2 to 0.3 mile wide.

Overhead cables, with vertical clearance of 6.5m, cross the entrance to Jossingfjorden E of Austre Kvalen Light.

Depths—Limitations.—An ore pier at the head of the fjord has a depth of 15m alongside. Vessels of up to 16,000 dwt can load from the silo with the help of a conveyor belt. Water may be obtained from the pier. Another pier at Holmen, on the E shore of the fjord, is about 20m long, with depths of 7.7 to 8.5m alongside; it is used for general cargo.

Vintersto, a 2.7m rock marked by an iron perch from which a light is shown, lies in a small cove on the E side of the fjord about 0.3 mile NNE of Austre Kvalen. Except for this rock, Jossingfjorden is clear of dangers.

Anchorage.—Small vessels can take good anchorage between Vintersto and the shore of the cove, in 16.5 to 24m, sand. Mooring rings are available.

Anchorages are also located in two coves on either side of a small peninsula that projects from the E shore of the fjord near Holmen, about 0.7 mile within the entrance.

Mooring rings are available in the SW cove. Depths in these anchorages are 20 to 24m. Larger vessels can anchor about 0.4 mile from the head of the fjord, in 40 to 55m, fine sand and mud.

Caution.—The approach to Jossingfjorden should only be made from the W. Passage should be made N of Indrebaen, Langholme, and Dynga.

Two submarine cables lie in the vicinity of the anchorage near Holmen. An outfall pipeline runs from the vicinity of Holmen, seaward along the E side of the fjord. Discharge is achieved through a pipe floating at a depth of 15m.

1.36 The coast between the Jossingfjorden entrance and Rekefjorden trends WNW for about 2 miles and is very irregular. It is entirely covered with green grass in summer.

In autumn and winter, when the grass is withered and before the ground is covered with snow, it has a yellowish appearance. The mountains flanking this coastal stretch are naked and dark, presenting a striking contrast.

A chain of four islets and a group of rocks extends for about 1 mile across a coastal indentation comprising the harbor of Sogndalsstranda, in the SE part, and two small arms, Helleviken and Logevik, in the NW part. Vambelsund, the

narrow but best entrance into this bay, is between the mainland and the SE end of Langholme, the southernmost islet of the chain.

During spring and autumn after heavy rains, a strong current runs out through Vambelsund. The entire bay is exposed to sea and swell.

Sogndalsstranda (58°19'N., 6°18'E.) is a village located on the E side of the bay. A small harbor formed by a jetty lies S of the village. Along the jetty there is a concrete quay,25m long, with depths of 1.7 to 5.5m. Overhead cables with vertical clearance of 8.5m are located in the vicinity of the village.

1.37 Rekefjorden (58°20'N., 6°16'E.) (World Port Index No. 23500), extending about 1 mile N, is entered between Lille Presteskjer and a point about 0.2 mile SE. Reefs fringe the shores of the fjord in places.

About 0.2 mile within the entrance, the fjord narrows to its minimum width of about 64m. The least depth in the narrows is 17.8m. General depths elsewhere in the fjord are 14.6 to 27m. Local knowledge is required. A 22m depth is located in the fairway about 0.2 mile SE of Lille Presteskjer. Within the narrows, there are several dangerous rocks that are marked by iron perches.

Anchorage.—Small vessels can anchor almost anywhere in Rekefjorden. The outer roadstead, just within the entrance, has depths of 29 to 37m, but is exposed to onshore gales.

Moderate size vessels can find sheltered anchorage about 0.5 mile inside the entrance, in a depth of about 24m, clay. Stern lines can be passed to mooring rings on shore.

A submarine cable crosses the S end of this anchorage and an overhead cable, with a vertical clearance of 40m, crosses the N end.

The town of Rekefjorden lies on the E side of the fjord near its head. Overhead cables, with vertical clearances of 10m, are located in the vicinity of Rekefjorden.

1.38 Nordfjorden (58°20'N., 6°15'E.), a narrow but sheltered fjord close W of Rekefjorden, is entered on either side of Nordfjordenholmane, which lies in the fjord entrance.

The channels on either side are narrow. The E channel has a depth of 6.9m; and the W channel has depths of 5 to 6.9m.

During onshore gales, the sea breaks across both channel entrances. Nordfjorden trends NNW for about 1 mile, but dries about 0.3 mile from its head.

Overhead cables, with a vertical clearance of 10m, exist at Nordfjorden.

Nordfjordenflu, with depths less than 1.8m and marked by an iron perch, lies close off the NE end of Nordfjordenholmane.

1.39 The coast between the Nordfjorden entrance and Stapnes, a mainland projection about 7 miles NW, is lofty and steep.

Along this coastal stretch all known dangers are near the land. There is no shelter and the few anchorages should only be resorted to in fine weather and with local knowledge.

Hadyret (58°20'N., 6°10'E.), a conspicuous 103m hill, is located on the coast about 3 miles NW of Lille Prestskjaer.

Hadyret, resembling a perpendicular wall of rock with a sharp and slightly projecting peak at the outer extremity, is marked by a white patch.

Vatlandsfluene, three detached depths, has depths of 16m, 13.7m, and 24m, lying up to 0.3 mile offshore and between 0.3 and 0.6 miles SE of Hadyret.

Vagene (58°20'N., 6°13'E.) is a small bay that indents the coast for about 0.3 mile N from the chain of islets and rocks fronting it. In the E part of the bay there is a depth of 21.9m over a sandy bottom, where small vessels with local knowledge can take anchorage. A draft of 3.9m can be taken through the channel between the second and third islets from W.

However, the anchorage is seldom used because onshore gales send in considerable swell. Under such conditions, there are breakers in the channels between the islets.

1.40 Nalauviken (58°23'N., 6°04'E.) is a bight on the E side of Stapnes. It is entered between the S extremity of Stapnes and a point about 0.6 mile E.

Haskjaer, an above-water rock with a reef projecting about 183m N from it, is located close off the E entrance point of Nalauviken. Storflu, an 11m depth, lies about 0.2 mile SW of Haskjaer. Lyreflu, with a least depth of 5.7m, lies close N of Storflu. Foul ground, on the W side of the bay, extends to positions about 0.1 mile SE and 0.3 mile ENE of the S end of Stapnes.

Tenholme, on the E side of the bay about 0.3 mile NNW of Haskjaer, is joined to the mainland close E by a drying shoal.

Tenholmflu, with a depth of less than 1.8m, and Kveidflu, a 1.8m rock on the E side of the bay about 0.1 mile farther N, are each marked by an iron perch. Small vessels can anchor, in 5.9m, off Odden, at the head of Nalauviken. The approach to the anchorage is narrow and difficult and should not be attempted without a pilot. During onshore gales, a swell rolls in over the shoals N of Tenholme.

At the head of Nalauviken, there is a good harbor, in depths from 5 to 7m, sand, protected by moles. Mooring buoys and rings are available. There is a quay, 40m long, with a depth of 5m alongside, in the harbor.

Havsund, between the N side of Dragoya, and Prestoya, an island about 0.2 mile N, is the principal passage leading toward Kirkehamn. The fairway through Havsund is deep and free from dangers. Vessels should approach Kirkehamn from W in mid-channel.

Svaholmane to Ognabukti

1.41 About one half the coastal stretch between Svaholmane and Ognabukti comprises the approaches to, and the port area of, Egersund.

Eigeroy (58°27'N., 5°58'E.) is relatively low and indented; seen from the sea it blends with the background. Lundeviken and Soragapet, the S approach leading into the port area, are well defined.

From W, the lowland region of Jaeren will be visible to the N in clear weather. Eigeroy will resemble a high promontory; the coast SE will appear very high and precipitous. Nordregapet, the W approach to Egersund, will also be clearly visible.

Between Egersund and Ognabukti, the coast is steep and rocky, but seldom rises above a height of 30m. There are a few patches of farmland but very few trees; the whole landscape is wild and inhospitable. A large number of islets front the several bays and coves that indent the coast between Nordregapet and Ognabukti.

Svaholmane (58°23'N., 6°03'E.) is a group of low islets and rocks lying on the E side of the S approach to Egersund within 0.5 mile W of Stapnes.

Kletten, Tysnesflu, and Stiksflu, with depths of 8.2m, 16m, and 8.2m, respectively, lie about 0.5 mile and 0.2 mile WSW and 0.3 mile NW, respectively, of a lighted structure on Syaholmane.

1.42 Soragapet (Sondregapet) (58°26'N., 6°00'E.), the S and principal approach to the port of Egersund, is the sound between the mainland and the E side of Eigeroy. Its channel is suitable for deep-draft vessels.

Entrance is made between Svaholmane and the shoals and other dangers that lie up to 1 mile S of Skarvoy, an islet near the SE end of Eigeroy, about 2 miles NNW of Svaholmane.

The most constricted part of Soragapet is between Fugleodden, a projection on the E side of Eigeroy about 1 mile N of Skarvoy, and Synnavikodden (Sonnevikodden), a small mainland point about 146m NE. A concrete silo, about 61m high, stands on the point.

Vardbergodden, the E entrance point of the outer harbor of Egersund, is located on the E side of Soragapet, about 0.5 mile N of Synnavikodden.

Svanesfluene, with depths of 10m and 12m, lies on the E side of Soragapet, about 0.2 and 0.5 mile offshore and about 0.7 mile NW of the light structure on Svaholmane. Isakbaen, with a least depth of 4m and marked on its SW side by a buoy, is located about 0.3 mile offshore and 1.5 miles NNW of the same light structure.

1.43 Stabsaet (58°24'N., 5°59'E.), a small islet, 10m high, on the W side of Soragapet, is located about 0.7 mile S of Skarvoy. Jensbaen, a 3m depth, lies about 0.2 mile SSE of Stabsaet. Jensbohausen, a 20m depth, lies about 183m farther S

Maerra, a rock, awash, about 0.2 mile NE of Stabsaet, is always marked by breakers. Shoal water extends about 137m S and E from the rock. Krabbeflu, a 23m depth, is located about 0.3 mile WNW of Stabsaet.

Depths of 14.5m and 11.6m lie about 0.3 mile and 0.4 mile NNE, respectively, from Stabsaet.

Store Svetlingen, 17m high, and Lille Svetlingen, two islets, are located about 0.7 mile and 0.8 mile SW of Skarvoy. A beacon stands on the NE side of Store Svetlingen. Shoal water extends about 183m S and W from Store Svetlingen. Glana, a rock, awash, lies about 137m E of the smaller islet.

Bronnesfluene, situated about 0.3 mile NW of Store Svetlingen, is marked at its E end by an iron perch and has a least depth of 7m over its W part.

A constant current, which is often very strong, sets S through Soragapet.

Navigation is rarely restricted by ice, although sometimes the portion of Soragapet above Fugleodden freezes over in winter. **Anchorage.**—Skjevollsvika, indenting the mainland about 0.7 mile NE of Skarvoy, provides sheltered anchorage to small vessels in 12.8 to 22m. The approach to Skjevollsvika is made SE of Tingelset, a 33m high islet on the E side of Soragapet. Moderate size vessels can anchor about 206m E of Tingelset, in 40m, sand.

Rekevika, a bight on the W side of Soragapet, about 0.5 mile N of Skarvoy, provides anchorage to small vessels with local knowledge, in 15 to 20m, good holding ground, sand.

Vessels entering must pass close to the N shore to avoid the shoals and rocks extending from the W shore. A 3m shoal lies in the middle of the entrance.

Gillestadvika is a small bight on the W side of Soragapet about 1 mile N of Skarvoy. Small vessels can anchor in the S part of the bight, in 15 to 20m, sand. Mooring rings are available. Skreddaren, awash and marked by an iron perch, lies about 0.1 mile NNW of Jektevikodden, the S entrance point. A concrete quay, located at Jektevikodden, is 60m long with depths of 8 to 9m alongside.

Hovlandsvika, a bay on the W side of Soragapet, which is entered between Fugleodden and a point about 0.3 mile NNW, is the best of these anchorages. It is the quarantine anchorage for the port of Egersund. Vessels can anchor here, in 10.1 to 14.6m, good holding ground.

Rageskjaerflu, with depths of less than 1.8m and marked by an iron perch, lies on the shore bank in a position about 0.3 mile NW of Fugleodden. A detached 7.2m depth is located in the N part of the bay.

1.44 Egersund (58°27'N., 6°00'E.) consists of an inner harbor and an outer harbor that lie between the mainland and the E side of Eigeroy. The outer harbor is separated from the inner harbor of Egersund by Lindoy, an islet which is joined to a peninsula that extends S from the mainland and forms the NE side of the outer harbor. This outer harbor, comprising the N part of Soragapet, is protected from the open sea by Eigeroy.

A reach, trending NE from Soragapet, forms the sheltered inner harbor, which is available only to small vessels and is used primarily by the local fishing fleet. Entrance is made close S of Lindov.

Barren hills, with rock outcrops, rise to heights of more than 122m both N and S of the town; those to the NW are over 244m high.

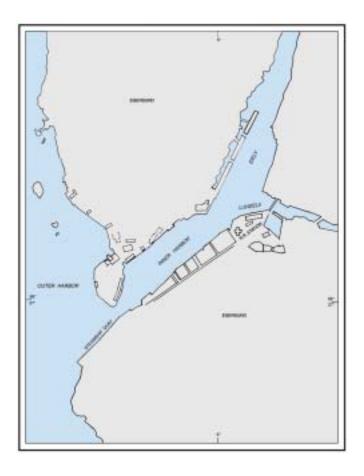
A bridge, with a clearance of 24m, spans Nysund, the narrow dredged channel, with a depth of 5.5m, connecting the N end of the outer harbor with the E end of Nordregapet.

Harbor facilities are located on both sides of the inner harbor and close N and S of Lindoy. Steamship Quay, in the outer harbor close SW of the entrance of the inner harbor, is the largest and most used of the berthing facilities; it is 288m long, with a depth of 8m alongside. There is a ro-ro berth for vessels up to 1,500 dwt with drafts up to 5.2m.

Ice.—The harbor is ice free during normal winters.

Tides—Currents.—The tidal range is insignificant.

Depths—Limitations.—General depths in the outer harbor and anchorage area are 6 to 12m. The inner harbor, adjacent to the town, has depths of 5 to 6m. The depths alongside the larger quays are 6 to 8m.



Egersund

Pilotage.—Harbor pilots are not required but are available on request by VHF, giving 3 hours notice of ETA. The pilot boards, as follows:

- 1. North approach—58°27'N, 5°51'E.
- 2. South approach—58°23'N, 6°00'E.

Anchorage.—Anchorage can be taken, in 6 to 12m, in the outer harbor W of Lindoy. The holding ground of sand and clay is very good.

Caution.—Several submarine cables lie in the approach to the port within Soragapet.

1.45 Lundeviken (58°26'N., 5°55'E.) divides Eigeroy into two parts, which are connected by a narrow neck of low land. It is conspicuous from the offing, as the land is lofty on both sides and the inner part is bounded by a low sandy shore. When approaching Eigeroy with an onshore wind and the weather is too heavy for pilots to go out, a vessel may safely stand in between Kjesholme, 19m high, the largest islet in the approach about 1.5 miles W of Skarvoy, and Fliset, a detached reef on the W side of the approach, about 1 mile WNW of Kjesholme.

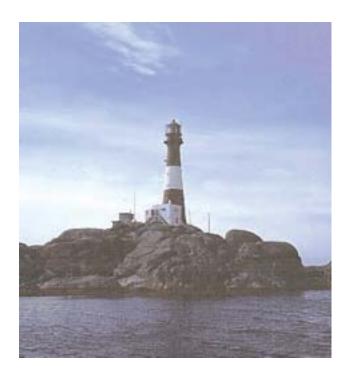
There are several rocks and shoals that lie near Kjesholme and Fliset, but the sea always breaks on them in heavy weather. Inside Lundeviken, the dangers are near the shore and are usually marked by breakers.

Abreast Hodnhammeren, on the W side of the bay about 2 miles NNW of Kjesholme, the depth is 20 to 26m, stony ground. North from here, the bottom shoals regularly and is sandy. Temporary anchorage can be taken, in a depth of 11m, about 0.1 mile NE of Hodnhammeren. This anchorage is somewhat exposed to sea and swell.

Sprangbukt (58°27'N., 5°56'E.), at the NE end of Lundeviken, is entered between Oksnesodden, a S projecting point that divides the head of the bay into two coves, and Ellevikholme, about 0.1 mile E.

Small vessels can anchor in 10.1m. Southwest winds send in some swell. There are no dangers within the rocks at the entrance. When entering, pass W of Ellevikholme, give it a fair berth, and avoid a 2.7m shoal extending about 183m S from Oksnesodden.

1.46 Nordregapet (58°27'N., 5°52'E.), the W and secondary approach to the port of Egersund, is entered between Ruskodden, the NW extremity of Eigeroy, and Gulholme, about 0.2 mile NW.



Eigeroy Light

Eigeroy Light (58°26'N., 5°52'E.) is located near the S end of Midbrodoy

Gulholme is the southernmost of a group of rocks and islets that extend about 0.5 mile S from the mainland and NNE of Midbrodoy. A beacon stands on the NE end of Gulholme.

Beacons, buoys, perches, and several lights mark the inner channel reaches. The least depth through the fairway of Nordregapet is 5.5m and is found in the dredged channel across the bar close N of Grundsundholmen.

Seilsteinen, the outermost of a group of above-water rocks, is located about 0.3 mile SW of Ruskodden. This lofty, perpendicular rock resembles a sail. A whitewashed patch on it

is visible for about 2 miles. A beacon stands on the W side of the rock. Several shoals, best seen on the chart, lie off of Seilsteinen.

Tryet, an above-water rock marked by an iron perch, lies in the fairway about 0.25 mile WSW of Ruskodden. Shoal water extends about 91m NNE from the rock; several below-water rocks lie between it and Eigeroy.

Svartholme is a small islet on the N side of the fairway about 137m NW of Gulholme. A 5.5m depth lies between the two islets; shoal water extends about 91m SE and NE from the latter

Sundsgapholme, the northwesternmost and largest of the islets on the N side of Nordregapet's main entrance, lies with its W extremity about 0.5 mile NW of Gulholme. Horsholme is the easternmost islet. A bar extends between the N side of Horsholme and the mainland. This bar limits vessels that can enter through the N channel, which leads E between the mainland and the N sides of Sundsgapholme and Horsholme, to drafts of less than 4m.

Lusaskjaer, marked by an iron perch, is located within the sound on the W side of the fairway, in a position about 91m E of Horsholme.

The usual and best entrance into Nordregapet is made between Tryet and Gulholme. The channel between Tryet and Gulholme cannot be made out until the vessel is close to Tryet.

After passing SE of Gulholme, course can be set for the anchorage area E of Horsholme or for the buoys marking the dredged channel N of Grundsundholmen.

Anchorage.—Good anchorage can be taken, in a depth of 12m, between Horsholme and Grundsundholmen. Anchorage can be taken, in a depth of 12m, in the N channel NE of Sundsgapholme, but vessels with drafts exceeding 4m must approach this latter anchorage from the W.

1.47 Dyroy (58°28'N., 5°52'E.) lies close offshore. Rocks and shoals encumber the narrow passage between the mainland and this small islet.

Svartskjaer is the outermost of several above and belowwater rocks lying on the S side of the N approach to Nordregapet and up to 0.25~mile SW of Sundsgapholme.

Karpusskjaer, with a depth of less than 1.8m, is on the N side of the approach close W of an islet that lies about 183m S of the SW extremity of Dyroy. Raudskjaer, with a depth of less than 1.8m and marked by an iron perch, lies about 183m W of the S extremity of Dyroy.

Dyroyflu, with a depth of less than 1.8m and marked by an iron perch, lies about $137m\ SSE$ of Karpusskjaer.

A shallow inlet indents the mainland N of Dyroy for about 0.5 mile, then extends about 0.7 mile E. Its much encumbered approach lies between Karpusskjaer and numerous dangers N of it, on the E, and Skjerpingerne, a chain of islets and rocks that extends about 0.6 mile SSW from the mainland, on the W.

Oyafluene, with a depth of less than 1.8m and marked by an iron perch, lie nearly midway between Karpusskjaer and Skjerpingerne. The town of Hellvik stands on the N shore of the inlet. Several concrete quays are located near Hellvik, with depths alongside up to 8m. Two lighted ranges and other navigational aids mark the entrance channel, which has been dredged to 6m. Entrance should not be attempted without local knowledge.

1.48 Skraedderen (58°28'N., 5°51'E.), a 5.5m depth, lies at the S end of Skjerpingerne. Lillegrunn, a detached 16m depth, lies about 0.7 mile offshore and about 0.7 mile W of Skraedderen. Mastefluene has several 12 to 18m depths that lie close to the SW end of Skjerpingerne.

Laedersholme (58°29'N., 5°50'E.) lies close off a small peninsula projecting S from the coast, on the E side of the S approach to Vatnemoholmene. Storflu, a 7m depth about 0.5 mile SSW of Laedersholme, is the outermost of numerous dangers extending S from the islet.

Vatnemoflu, a 4m shoal, lies closest to the approach range line in a position about 0.1 mile NNE of Storflu. Hellarne is two rocky heads about 183m apart, of which the NW is awash and the SE is marked by an iron perch, located about 0.2 mile NE of Storflu.

1.49 Vatnemoholmene (58°29'N., 5°49'E.), a small harbor, is formed between the E side of a small coastal projection and some close lying islets.

There are two entrances; the S entrance has a depth of 10.1m while the W entrance has a depth of 5.9m. Northwest and SW winds send in a considerable swell. Mooring rings are available and must be used. Entrance into Vatnemoholmene should not be attempted without local knowledge. The S, or preferred, channel is marked by two pairs of range lights.

Hellesundfluene, with a depth of 4.8m, is located about 0.6 mile W of Vatnemoholmene.

Ognabukti (58°31'N., 5°45'E.), an open bay, recedes NE for about 1 mile and has general depths of from 11 to 22m.

Sirevag (58°30'N., 5°48'E.) is a small fishing harbor on the E side of Ognabukti. It affords anchorage with mooring rings, in depths from 6 to 8m, within a short mole which projects from the N shore. Quays on the N shore have a total length of 300m, with depths from 3 to 5m alongside.

Vagsgabgrunn, with a depth of 3.5m, lies close W of the Sirevag entrance. The inlet can be entered either S or N of this shoal, but local knowledge is required.

After entering Lundeviken, the vessel may either hove to when the water becomes smoother, to await a pilot, or stand farther in, keeping about 0.2 mile from the W shore.

Ognabukti to Feistein

1.50 From Ognabukti, the coast trends quite regularly NNW for nearly 15 miles to Jaerens Rev, the westernmost extension of the mainland in the S approach to Stavanger. A few small coastal indentations provide limited shelter to small craft, but there are no harbors.

Between Jaerens Rev and Lyratangen, a mainland projection located abreast Feistein 4.5 miles NNE, the coast recedes about 0.7 mile E, forming Honsviki.

At Ognabukti, the mountainous coast begins to drop toward the sea; immediately to the N is the low land of Jaeren.

This part of the coast is so low that when approaching it from the offing, the houses appear to rise straight from the sea.

About 4 or 5 miles inland, a range of hills, presenting, however, no very conspicuous landmarks, rises from the plain.

The beach between Ognabukti and Lyratangen, and about 2 miles farther N to Vigdelneset, is composed of white sand and is backed by sand dunes.

Jaeren is one of the most unusual tracts of land in Norway. Its surface is undulating and occasionally rises into low hillocks. Bogs dotted with peat stacks are varied by heather-covered tracts and luxuriant meadows and farm lands. Here and there at rare intervals are small groups of trees; the whole plain is intersected by a network of stone walls.

Tides—Currents.—The tidal current off Jaerens Rev is irregular and much affected by the wind, which may be N for long periods in early summer. In fine, calm weather the tidal current usually sets N with the rising tide and S with the falling tide. The currents attain velocities of 1 knot to 2 knots and always set strongest to the N.

1.51 The coast between Ognabukti and Obrestad, about 8.25 miles NNW, is relatively steep-to.

Horr Farm (58°33'N., 5°40'E.) is a conspicuous landmark. Its buildings stand higher than any structures in the vicinity and appear from a distance to be built on a point. A church, located about 2 miles N of Horr Farm and 1 mile inland, is white and has a low tower and spire.

Obrestadbrekra (58°40'N., 5°33'E.), from which a light is shown, is the highest point on the Jaeren coast.

Obrestad Light is exhibited from a granite house and is16m high.



Obrestad Light

Jaerens Rev (58°45'N., 5°30'E.), a low point, is the W extremity of Jaeren. The coast at the point is a strip of land from 0.2 to 0.6 mile wide.

A reef extends about 0.2 mile SW from Jaerens Rev. A lighted buoy marks the W side of the reef extending W from Jaerens Rev.

1.52 Honsviki, between Jaerens Rev and Lyratangen, 4.5 miles NNE, is open W and clear of dangers. General depths in the bay are 9.1 to 18.3m.

Skotamedgrunn (58°48'N., 5°26'E.) is located between 3 miles and 3.5 miles NW of Jaerens Rev. The dangerous area extends approximately 2 miles around the shoals in a SW-NW direction. The depths vary from about 40m in its W part to about 16m in its E part. Waves from SW to NW create rough sea in the area.

During N weather, a refraction center will emerge on the shallow areas and, combined with a W current of 1 to 1.5 knots, the conditions will become even worse. Breaking surfs have been observed in the area.

Tangerhaug, a 28m high hillock, lies close SE of Lyratangen and is marked by a wooden beacon.

A radio mast, 152m high, stands 2.25 miles NE of Jaerens Rev. Obstruction lights are shown from the mast.